tiously, taking care not to dip the point of the scalpel, or to divide any structures except the contracted band of fascia. In many cases, four punctures are sufficient for two fingers; if there be more than two to operate upon, it is better to confine the operation to two fingers. The fingers are immediately extended and retained by splints. The operation is readily performed under ether-spray, if the frozen skin be rapidly thawed by friction with the operator's warm hand, so as to leave the deeper parts insensible to pain.—*London Med. Record*, Aug. 15, 1878.

Sequel to a Case of Aneurism of the Aorta, and the Innominate, Subclavian, and Carotid Arteries, treated by the Double Distal Ligature.

Mr. RICHARD BARWELL reported to the Royal Medical and Chirurgical Society (*British Med. Journ.*, June 8, 1878) the sequel to the case which was exhibited to the Society in November last (see the *American Journal of the Medical Sciences* for April, 1878, p. 275).

On November 14, the patient left the hospital. On the 20th, he came to the hospital on formal business; and, as he was suffering from bronchitis, Mr. Barwell persuaded him to remain. He was very intractable, and, not being allowed brandy, left on the 22d. He walked home (about two miles) very thinly clad, through snow and sleet, sat four hours in wet clothes without a fire, became rapidly worse, and died on November 24. On November 25, a *post-mortem* examination was made. The aneurism, which appeared solid, was removed, together with the heart and great vessels. No other disease was discoverable, except very acute bronchitis (muco-pus in the large and small bronchi), hypostatic pneumonia, and œdema of the lungs. The blood in the arterial system was dark, like that of the veins. The aneurismal tumour, rather larger than a tennis-ball, sprang from the junction of the first and second parts of the aorta. Its pressure had altered the course and relations of the trachea and œsophagus; the large veins also were peculiar. It was remarkably hard and firm. At its upper part, it was elongated into a subsidiary enlargement, which lay in the neck, and was in front divided from the rest of the aneurism by a groove marked in it by the clavicle. The back of the sac was moulded in the apex of the lung. The sac was laid open from behind forward. There was within it, still persistent, a globular cavity, perhaps an inch in diameter; this was surrounded by a very firm clot of variable thickness; and in front, close to its opening into the aorta, it was rather more than one-third of an inch thick; behind, an inch and a half. The subsidiary tumour was quite obliterated, so that here the clot was more than two inches thick. No vessel opened out of the aneurism; the innominate being, like the right subclavian and carotid, obliterated. The left vessels came off from the aorta itself below the mouth of the aneurism. The specimen showed that the tumour had greatly shrunk since the operation; that the whole tumour was as much filled as could be expected in the time; that, had the man chosen to remain in the hospital, or been moderately prudent, the whole cavity must almost of necessity have become obliterated, since the aneurism, thickened by hard clot, could neither have enlarged nor burst; and, since there was no thoroughfare within the sac, there could have been no blood-stream through it. In fact, though the man, by his own perversity, contracted an intercurrent fatal disease, the aneurism was to all intents and purposes cured.

Reunion and Restoration of Divided Nerves.

Mr. WHEELHOUSE, in his recent address on Surgery (*British Med. Journal*, Aug. 10, 1878), made the following remarks on this interesting subject:—

In the *Lancet* of June 1 of the present year (see *Monthly Abstract* for July,

p. 314) a series of experiments are recorded as in progress in Germany, the object of which is to ascertain whether the nerves, like other structures, are not amenable to surgical treatment for their restoration after division and complete loss of function; but, whilst the Germans are patiently experimenting to determine the point, it is my good fortune to be able to answer this question distinctly in the affirmative, as the following case will show.

On May 5, 1875, a patient named Adam Smith, a labourer, aged 22, entered the Infirmary at Leeds, under my care. He limped into the ward on crutches, his left lower limb being completely paralyzed and useless, and stated that he had come to request us to remove it, as an incumbrance. The story he told me concerning it was this. Nine months previously, as he was returning home one evening, at the close of his day's labour, carrying his scythe over his shoulder, being anxious to make a short cut to his cottage, he attempted to climb over a fence; in doing this, the point of his scythe caught in the hedge behind him; he was jerked suddenly backward, and fell with the back of his thigh upon the sharp edge of the implement. The result of this was a ghastly wound, the contracted cicatrix of which measured nine inches in length when I first saw it nine months afterwards. He lay, bleeding profusely, where he fell for many hours before he was found and carried home; there the hemorrhage was stanched, the wound was dressed, and, in process of time, it slowly healed; but he noticed, during the whole time so occupied, that the limb was slowly wasting and withering away, and that it manifested no sign whatever of any returning sensibility.

Eventually, when he was able to leave his bed, he found to his horror that, although the wound was healed and the limb was apparently saved, it had become wholly useless to him. So far as the distribution of the sciatic nerve was concerned, the power of sensation was entirely lost; of voluntary muscular power he had none, and the joints were relaxed and flaccid.

I need not detail to you all the efforts, vain efforts indeed, that he made to recover the lost powers of the limb; suffice it to say that, receiving no benefit from anything he did or tried, he finally came to the hospital to ask for its removal.

The whole cause of the mischief was, of course, clear at a glance. The sciatic nerve had been divided, and, in the healing of the wound, the separated ends had never reunited. Here, if ever, was a fair opportunity to test the question: Are nerves which have been divided, and have long remained disunited, capable of restoration?

I called my colleagues to my assistance in forming an opinion on the matter. Dr. Clifford Allbut was good enough most patiently and carefully to test electrically the condition of the disused and wasted muscles, and he reported that, though not wholly destroyed, their irritability was well nigh exhausted. My surgical colleagues agreed with me that whereas, should the attempt to restore the lost nerve-power altogether fail, I could still, as a last resource, remove the limb, I should be justified in making an attempt to reunite the ends of the divided nerve. After fully explaining to the patient the position of affairs, and obtaining his assent, I determined to do so.

Having laid open the back of the thigh, and, by a careful and deliberate dissection of the parts, exposed the wounded nerve, I found it completely cut across; the two ends were firmly felted in cicatricial tissue two inches apart. On the upper end was a large bulbous swelling, the lower appeared atrophied and somewhat wasted. Both were carefully loosened and detached; the bulb was removed from the upper one, and each was then pared obliquely until apparently fresh nerve-tissue was exposed. When I then attempted to bring them together, the nerve was found to be so much shortened that I could not do so until I flexed the knee fully. This enabled me to make the ends of the nerve meet without strain; they were then carefully stitched together with very fine carbolized catgut thread, the wound was closed, the ankle was firmly lashed to the buttock, and in this position the patient was put to bed.

I will not weary you with details. Suffice it to say that little by little, and in very wandering fashion, day by day, and week after week, sensation was found to be returning in the limb. At the end of five weeks, I began slowly to relax the position and let down the leg inch by inch, until at length it became straight again, and then, to my intense satisfaction, I found that the restored sensibility remained. By very slow degrees, the power of voluntary motion also returned, and, on August 7, he was discharged from the hospital so far cured that, with the help of two sticks, he was able to support himself on the limb, and could walk. From that time to this, he has gone on improving. During the whole of the past winter he has worked in the fields as he was wont to do before his accident, requiring neither stick nor support, nor help of any kind; and, though the limb remains greatly inferior in size and nutrition to the opposite one, it is, to all intents and purposes, a useful member again.

Since the performance of that operation, my colleague, Mr. Atkinson, has in similar manner successfully reunited a divided median, and Mr. Jessop has reminded me that, long prior to my case, he also had been equally happy in thus dealing with an ulnar nerve.

Severe Injury of the Axilla during Reduction of a Dislocated Humerus.

MR. THOMAS SMITH, in the *Lancet*, July, 1878, p. 3, reports a case where, with the heel in the axilla and from a force not greater than that usually employed, the axilla tore as though it had been wet paper, the foot apparently cutting its way through the tissues and not tearing them by excessive stretching. The patient was a cellarman, aged 58, who had eight weeks previously fallen on his elbow and received a subglenoid dislocation of the humerus, which, however, was not detected at the time. He died nine days afterwards from exhaustion. The pectoral muscles were almost completely torn across, the vessels and nerves uninjured.

On *post-mortem* examination, diffuse suppuration was found to exist in and around the axilla, and the parts about the upper and middle lobes of the right lung were in a state of consolidation. The heart was flabby; the liver large, pallid, and fatty; the kidneys normal; the spleen large, soft, and semifluid; vessels of the size of the tibials were rigid from calcareous degeneration. The muscles generally were paler, softer, and more flabby than normal. At the seat of injury, nothing could be ascertained as to their condition as regards degeneracy, owing to the amount of sloughing that had taken place. No microscopical examination was made.

[This case is one of very great rarity, if not unique. Several instances are recorded in which injuries of the axillary vessels and nerves have occurred in the reduction of old dislocations of the humerus, and are referred to by Mr. Erichsen in the *Science and Art of Surgery;* but cases of such extreme friability of the parts as is described by Mr. Smith are apparently unknown, or almost so, in surgical literature.]—*Lond. Med. Record*, Aug. 15, 1878.

Arthritis Secondary to Acute Myelitis.

The occurrence of arthritic changes secondary to chronic spinal affections is now well established, but instances of those changes as the result of such acute affection of the cord as give rise to the sloughing of the tissues have very rarely